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October 12, 1999

99-RF-040(

Steve Tower Senior D&D Project Lead DOE, RFFO

RECONNAISSANCE LEVEL CHARACTERIZATION REPORT FOR T112A AND T112C, REVISION 1, DATED SEPTEMBER 30, 1999 – KAD-022-99

Enclosed please find two copies of the Reconnaissance Level Characterization Report. This Report has been revised to incorporate your comments and the change in the disposition - decision regarding Trailer 112A. This trailer is considered waste and is not available for resalt due to its physical condition.

Please forward a copy of the report to the Colorado Department of Public Health and Environment (CDPHE) for their information.

You can reach me at extension 6034 if there are any questions concerning this matter.

Kent Dorr

Project Manager

**D&D Project Execution** -

KAD:kjs

Enclosure:

As Stated

Original & 1 cc - Steve Tower



ADMIN RECCRD

IA-A-000519

Kaiser-Hill Company, L.L.C.

Courier Address: Rocky Flats Environmental Technology Site, State Hwy. 93 and Cactus, Rocky Flats, CO 80007 + 303.966.7000

Mailing Address: P.O. Box 464, Golden, Colorado 80402-0464



46469 (Rev. 8/4/95)

ORIG. & TYPIST INITIALS:

KAD:kjs

Scott, Tom

From:

Barnes, David

Sent:

Wednesday, November 10, 1999 10:47 AM

To:

Scott, Tom

Subject:

FW: DPM Conversions

Importance:

High

Tom,

This is the spreadsheet Luker and I used to convert our pCi/g lab sample results to dpm/100cm^2 surface contamination units (in conjunction with the DOE memo).

## Specifically:

- 1. The nuclide, isotopic pCi/g results, and isotopic pCi/g MDA are taken from the lab report.
- 2. Approximate total sample weight and surface area are known quantities supplied by the sample team.
- 3. The lab digested a sub-sample with a surface area of ~1 inch square.

Therefore: <u>(results in pCi/g)(total sample weight)(2.22 dpm/pCi)</u>
(total sample area)(6.4516 square cm/square inch)

gives you dpm/cm^2

multiply by 100 for dpm/100cm<sup>2</sup> for results that are directly comparable to 5400.5 DCGLs.

(detailed unit conversion on spreadsheet)

----Original Message-----

From:

Luker, Steve

Sent:

Thursday, September 09, 1999 9:38 AM

To: Subject: Barnes, David DPM Conversions

Importance:

High

Dave,

This is adapted from the 779 Project (they've used this template in a couple of reports).

The T112A #s have been input in this version.

Please compare w/ your numbers and review/modify/use as needed.

Call if questions or comments.

Thanks.

s luker x7291



Table 4-4. Group A Buildings Paint/Surface Media Sample Results (dpm/100 cm²).

gram to 100cm/2 conversion for DOE.xls

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Results (
Sample
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7112/

					_						_	
TRANSURANIC TOTAL (dpm/100cm <sup>2</sup> ) Umit=100					0.0						0.4	
URANIUM TOTAL (dpm/100cm²) Limit=5000			14.2						13.7			
ESTIMATED MDA (dpm/100cm²)	6.0	1.1	1.3	1.2	2.2		1.7	1.0	9.0	1.0	1.2	
INDIVIDUAL NUCLIDE (dpm/100cm <sup>2</sup> )	6.8	0.4	7.0	0.0	0.0		6.0	0.0	7.7	0.4	0.0	
APPROXIMATE SURFACE AREA (In <sup>2</sup> )	192						192					
APPROXIMATE WEIGHT	144.00						129.00					
MDA (octo	0.034	0.042	0.050	0.045	0.086		0.072	0.043	0.035	0.045	0.053	
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LOCATION	DESCRIPTION	T112A, roof	center				T112A, roof SW	corner				

	2 2	13.7	0.0
	MAX	14.2	0.4
	MEAN	13.9	0.2
	SD	0.4	0.3
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DOE Order 5400.5 Fr

in²	6.4516 cm <sup>2</sup>
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Isotope specific results in dpm/100cm² are then summed per DOE 5400.5 categories.

T112A Media Sample Results (dpm/100 cm²)

TRANSURANIC TOTAL (dpm/100cm²)	Limit=100					0.0						0.4
URANIUM TOTAL (dpm/100cm²)	Limit=5000			14.2						13.7		
ESTWATED MDA	(dpm/100cm²)	6.9	1'1	1.3	1.2	2.2		1.7	1.0	8'0	1.0	1.2
INDIVIDUAL	(dpm/100cm²)	5.6	0.4	7.0	0.0	0.0		6.0	0.0	7.7	0.4	0.0
APPROXIMATE	SURFACE AREA (In-)	192						192				
APPROXI	ľ	144.00						129.00				
į	pcvg MDA (pcvg)	0.034	0.042	0.050	0.045	0.086		0.072	0.043	0.035	0.045	0,053
	S 3	0.264		0.270	0.000	0.000		0.259	0.000	0.332	0.017	0.000
	-  -	0-233/234	U-235	U-238	Pu-239/240	Am-241		U-233/234	U-235	U-238	Pu-239/240	Am-241
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	SAMPLE LOCATION NUMBER SITE SAMPLE TO											
LOCATION	DESCRIPTION	2A, roof	center				112A, roof SW	corner				

NIW	13.7	0.0	
MAX	14.2	0.4	
MEAN	13.9	0.2	
SD	0.4	0.3	
Threshold (1970)	2002	001	

DOE Order 5400.5 Free-Release Threshold (DCGL) 50

2.22 dpm ည္ရ # of d ပ္ထ Unit conversion: dpm/100cm<sup>2</sup> = 100 X

Isotope specific results in dpm/100cm<sup>2</sup> are then summed per DOE 5400.5 categories.

Scott, Tom

From: richard luker [rsluker@netscape.net]

Sent: Wednesday, November 10, 1999 10:40 AM

To: tom.scott@rfets.gov
Cc: dave.barnes@rfets.gov
Subject: Surface Activity Conversions

Tom,

As discussed, here's a summary of the conversion and the related V&V.

- The calculations used in our report were the same as those used on the 779 D&D Project for MARSSIM free-release determinations.
- 2) The equation is documented within a spreadsheet/template (MS EXCEL), and has been verified through peer and QA reviews, and approved by DOE, CDPHE, and EPA Region VIII (e.g., the Bldg 729 Closeout report, B Annex report, Administrative Area Report, etc.)
- 3) The equation simply converts the concentration (pCi/g) of a paint/concrete matrix—scraped from a known surface area of interest—to dpm/100cm2 for the purpose of directly comparing sample results to DOE 5400.5 free-release limits.
- 4) The equation is conservative (toward estimating maximum alpha contamination) in that it translates total mass of the sample to the surface, where, in reality, some of the mass may be below the surface and any rads present below the surface would NOT contribute alpha activity as assumed in the conversion.
- 5) Barnes has the template we used if you need more detail.

Thanks (and sorry I missed the 9 o'clock).

Page me if questions 212-6534).

Get your own FREE, personal Netscape WebMail account today at <a href="http://webmail.netscape.com">http://webmail.netscape.com</a>.

T112A Media Sample Results (dpm/100 cm²)

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	MIN	13.7	0.0
	MAX	14.2	6.4
	MEAN	13.9	0,2
	SD	0.4	0.3
DOE Order 5400.5 Free-Release Threshold	ease Threshold	2000	100

区 Unit conversion: dpm/100cm2 =

9 | pc. | # or in 5.4571

This conversion produces dpm/cm<sup>2</sup>. Multiply by 100 for dpm/100cm<sup>2</sup>.

Isotope specific results in dpm/100cm<sup>2</sup> are then summed per DOE 5400.5 categories.